Current and Voltage Sensors

CurrentWatch ECSTD Series



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ECSTD Series CurrentWatch Current Switches

Product Description

The CurrentWatch ECSTD Series from Eaton's electrical sector is a family of high performance currentoperated switches with fieldadjustable time delay to help minimize nuisance trips during start-up and operation. Designed for motor status applications where setpoint accuracy and repeatability are critical, the ECSTD Series offers a linear setpoint characteristic and constant hysteresis. Standard features include self-powering, jumper-selectable ranges and a choice of outputs and housing styles.

For typical applications of the CurrentWatch ECSTD Series, see listing on this page.

Application Description

Typical Applications

- Motor Protection— Serves as an electronic proof-of-operation; detects current draw changes in motors when they encounter problems such as pumps running dry or pending bearing failure; non-intrusive and less expensive to install than differential pressure flow sensors or thermal switches; much quicker response time than Class 10 overload relays
- High Inrush or Temporary Overload Current—Adjustable startup/delay timer allows 0–15 second delay to eliminate nuisance trips from high inrush or short overload conditions

Example Application – Isolated Alarm System Interfacing



Features

- Adjustable Start-Up/ Delay Timer—Field adjustable from 0–15 seconds to eliminate nuisance alarms due to start-up inrush or temporary overcurrent conditions
- Choice of NO/NC AC or Universal Outputs— Contact ratings of 1.0A at 240 Vac or universal outputs of 0.15A at 240 Vac/dc (NO models) and 0.2A at 135 Vac/dc (NC models) for use with most standard motor control systems
- Improved Ease of Installation and Use— Self-powered, split-core models simplify installation, 1.0A AC rating eliminates need for time delay relay, and status LED provides visual indication of setpoint trip and contact action
 Industrial Grade
- Industrial Grade Performance—Constant hysteresis and linear response characteristics enhance setpoint accuracy
- Agency Approved—UL Listed, CE pending

For Customer Service in the U.S. call 1-877-ETN CARE (386-2273), in Canada call 1-800-268-3578. For Application Assistance in the U.S. and Canada call 1-800-426-9184.

For the most current information on this product, visit our Web site: www.eaton.com

Current and Voltage Sensors

CurrentWatch ECSTD Series

Standards and Certifications

- UL Listed
- cUL Listed
- CE (Pending)
- UL 508 Industrial Control Equipment (USA and Canada)



DANGER

THIS SENSOR IS NOT A SAFETY DEVICE AND IS NOT INTENDED TO BE USED AS A SAFETY DEVICE. This sensor is designed only to detect and read certain data in an electronic manner and perform no use apart from that, specifically no safetyrelated use. This sensor product does not include self-checking redundant circuitry, and the failure of this sensor product could cause either an energized or de-energized output condition, which could result in death, serious bodily injury, or property damage.

Product Selection

ECSTD Series CurrentWatch Current Switches

AC Output Switches (NO/NC 1A at 240 Vac)

	Power Supply	Aperture Size	Output Type	Setpoint Options	Catalog Number
Solid-Core Housing	Solid-Core Housing				
and the second s	Self powered (no external power needed)	0.75 in (19 mm)	Normally open	Adjustable setpoints: 1.5–12, 12–55 or 50–175A	ECSTD401SC
			Normally closed	Adjustable setpoints: 1.5–12, 12–55 or 50–175A	ECSTD402SC
Split-Core Housing	Split-Core Housing				
	Self powered (no external power needed)	0.85 in (21.6 mm)	Normally open	Adjustable setpoints: 2–12, 12– 55 or 50–200A	ECSTD404SP
James -			Normally closed	Adjustable setpoints: 2–12, 12–55 or 50–200A	ECSTD405SP

AC/DC Output Switches (NO 0.15A at 240 Vac/dc, NC 0.2A at 135 Vac/dc) 0

	Power Supply	Aperture Size	Output Type	Setpoint Options	Catalog Number
Solid-Core Housing	Solid-Core Housing				
	Self powered (no external power needed)	0.75 in (19 mm)	Normally open	Adjustable setpoints: 1.5–12, 12–55 or 50–175A	ECSTD406SC
			Normally closed	Adjustable setpoints: 1.5–12, 12–55 or 50–175A	ECSTD407SC
Split-Core Housing	Split-Core Housing				
	Self powered (no external power needed)	0.85 in (21.6 mm)	Normally open	Adjustable setpoints: 2–12, 12– 55 or 50–200A	ECSTD408SP
			Normally closed	Adjustable setpoints: 2–12, 12–55 or 50–200A	ECSTD409SP

Note

① Preferred for PLC inputs.

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Accessories

DIN Rail Mounting Kit	
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 ECSTD Series CurrentWatch

 Current Switches

 Description
 Catalog Number

 DIN rail mounting kit ①
 EDINKIT



Technical Data and Specifications

ECSTD Series CurrentWatch Current Switches

Description	Specification			
Power supply	Self-powered—no power supply needed			
Output	Magnetically isolated solid-state switch			
Output rating	AC output models: NO/NC 1A at 240 Vac AC/DC output models: NO 0.15A at 240 Vac/dc; NC 0.20A at 135 Vac/dc			
Off-state leakage	<10 µA			
Response time	Adjustable 0.2 to 15 sec.			
Setpoint range	Solid-core: 1.5–12, 12–55 or 50–175A Split-core: 2–12, 12–55 or 50–200A (jumper selectable)			
Hysteresis	5% (constant)			
Isolation voltage	5000 Vac (tested)			
Frequency range	50–100 Hz			
Sensing aperture	Solid-core models: 0.75 in (19 mm) dia. Split-core models: 0.85 in (21.6 mm) sq.			
Housing	UL94 V0 flammability rated			
Environmental	Operating temperature: 5° to 122°F (–15° to 50°C) Humidity: 0–95% RH, non-condensing			

Overload Ratings

		Maximum Ampere	Maximum Amperes		
Housing	Range	Continuous	Six Seconds	One Second	
Solid-core	1.5–175A	175A	400A	1000A	
Split-core	2-200A	200A	400A	1000A	

LED Indication/Output Status

Monitored Amps	Output NO	NC	Smart-LED (If Present)
None or minimum	Open	Closed	Off
Below trip level	Open	Closed	Slow (2 sec.)
Above trip level	Closed	Open	Fast (0.5 sec.)

Note

① Sensor pictured for reference and not included in kit.

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Wiring Diagram

ECSTD Series CurrentWatch Current Switches

Normally open (NO) models shown



Dimensions

Approximate Dimensions in Inches (mm)

Solid-Core Housing



Split-Core Housing

